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GB 2204627 A

(58) Field of Search

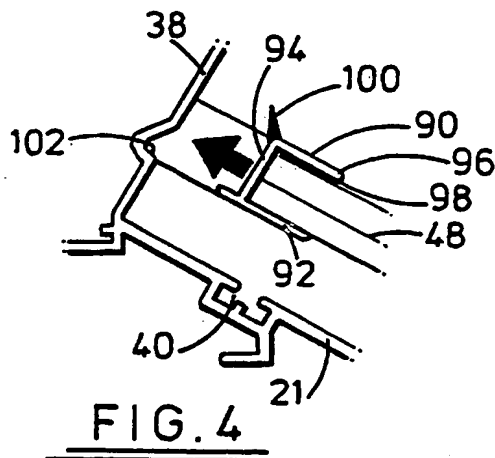
UK CL (Edition M ) E1D DDJ DDV DF112 , E1R RRP

RRQ RRS RRV

INT CL<sup>5</sup> E04D , E06B

(54) Sealing roofing panels against ridge member

(57) A roof structure comprises roofing panels (48) abutted against a ridge member (38), wherein ends of roofing panels are provided with means (90) for sealing between the roofing panels and the ridge member. Seal (90) may be a channel member with a co-extruded gasket (98) to seal against panel (48); another gasket (100) to seal against ridge member (38), and a protrusion on channel base (94) to locate in a groove (102) on the ridge member, which may be a ventilated ridge beam of a conservatory.



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At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

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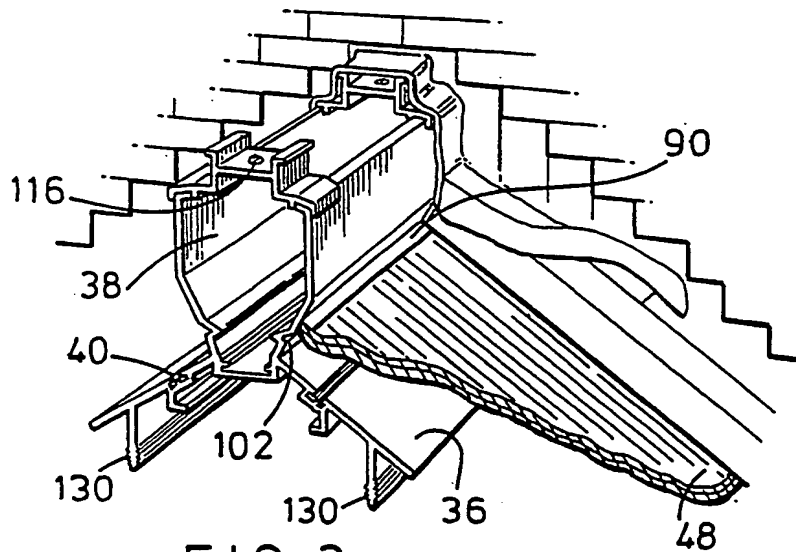


FIG. 3

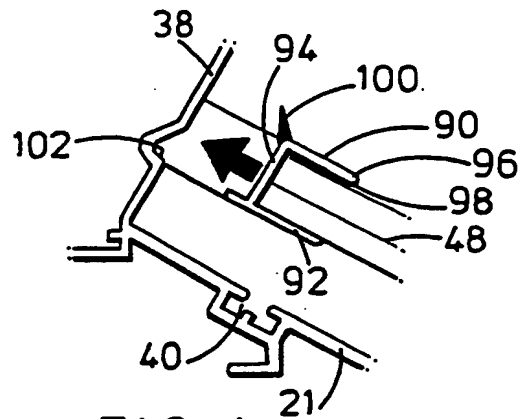


FIG. 4

TITLE: Roofs

DESCRIPTION

This invention relates to roofs and, in particular, to ridge structures of conservatory roofs.

5           It is known to construct conservatory roofs from polycarbonate roofing sheets supported between glazing bars. The glazing bars are supported and connected at one end to a ridge structure and at the other end are supported and connected to an eaves structure. Such  
10 ridge structures comprise a pair of ridge legs on which the glazing bars are supported and connected to. A ridge cap is connected to the ridge structure and provides cover for the ridge structure and the ends of both the glazing bars and roofing sheets. The ridge cap  
15 comprises two downwardly extending legs which overlie the ridge structure and the ends of both the glazing bars and the roofing sheets so as to define a passageway therebetween in order to allow ventilation of the ridge structure and consequently, the interior of the  
20 conservatory.

          There exists a problem associated with the above described ridge cap in that the required spacing of the cap legs from the roof (glazing bars and roofing sheets) allows water to ingress back along the passageway and is

also susceptible to drafts.

One proposal for reducing the effect of this problem has been made in our copending patent application No. 9302286.1 by providing the ridge cap  
5 with resiliently deformable barrier means, such as a brush, on a depending leg or legs thereof, which bridges the gap between the ridge cap and roofing panels and glazing bars.

However, roofing panels are usually only abutted  
10 against a ridge member typically a ventilation box with no sealing therebetween, so that water and drafts may still penetrate past the end of a roofing panel abutting a ridge member.

An object of this invention is to provide  
15 additional or alternative means for sealing between roofing panels and a ridge structure.

According to the invention, it is proposed that ends of roofing panels of a roof structure in which the panels are abutted against a ridge member, such as a  
20 ventilation box, are provided with means for sealing between the roofing panel and the ridge member.

The means for sealing is preferably a channel section member that fits onto the end of a roofing panel which member has an external gasket means preferably  
25 coextruded with the channel section member, for providing a seal between the channel section member and

the ridge member against which it is abutted when fitted.

The gasket means is preferably along a corner of the channel section, especially an intended upper cover, where the base of the channel meets a side wall thereof, and preferably extends upwardly and outwardly therefrom.

The channel section member preferably also has an internal gasket, preferably also coextruded with the channel section member, to provide a seal between the upper surface of the panel and the channel section member. The internal gasket is preferably formed along an edge of the channel section member to be deformable inwardly when a panel is pushed into the channel section. The coextruded gaskets are preferably of rubber or synthetic elastomeric material.

For ease of location of a panel fitted with a preferred channel section member of the invention, the channel section member preferably has a projection or the like to locate on the ridge member. Preferably the projection or the like is in the form of a continuation of a wall of the channel section member, preferably an intended lower wall when fitted, beyond the base of the channel section member. The ridge member, typically a ventilation box preferably has a ledge for location of the projection or the like. Said ledge may be provided by a longitudinal recess formed in a wall of the ridge

member or ventilation box.

This invention will now be further described, by way of example only, with reference to the accompanying drawings, in which:

5           Figure 1 is a perspective view of an unassembled ridge structure in accordance with the present invention;

          Figure 2 is a section through components of the ridge structure of Figure 1;

10           Figure 3 is a perspective view of an assembled ridge structure in accordance with the invention; and

          Figure 4 is a section showing part of the ridge structure of Figure 3.

          Referring to the accompanying drawings, a ridge  
15   structure comprises a ridge cap 10 having a central horizontal position 12, first leg section 14,16 extending downwardly from either side of central position 12 and second leg sections 18,20 extending downwardly and outwardly from the first leg section  
20   respectively. Extending downwardly from the lower ends of second leg sections 18,20 are flanges 25,26. Flanges 25 and 26 each have an inward facing longitudinal slot 27 for receiving a T-member 28. Said T-member 28 forms an integral part of a brush connector, which further  
25   comprises a longitudinal channel for receiving ends of bristles to form a brush 32. The brushes 32 extend



inwardly from the flanges and continuously along the length of said flanges.

The ridge cap 10 is retained on a ridge structure generally designated 34. The ridge structure  
5 comprises a pair of ridge plates 36 which are connected to each side of a ventilation box 38 and extend outwardly and downwardly therefrom. Each ridge plate 36 has a longitudinal channel 40 formed therein for receiving round headed cross-cut bolts 42 for securing  
10 glazing bars 44 thereto. The glazing bars 44 support roof panels 48, such as of polycarbonate or glass, which are retained by glazing caps 50 which are a press fit onto the lower glazing bars 44. The panels are laid abutting the ventilation box 38. The glazing bars 44  
15 have a cover 52 on their underside, which covers are of channel section and have inwardly extended co-extruded gasket material 54 of rubber or synthetic elastomeric material on their upper edges. The glazing bar 44 is generally in the form of an inverted T, the upstanding  
20 limb of which is bifurcated to form a channel 56 with internal ribbing 58 to retain depending resilient lipped members 60 of glazing caps 50 which are generally of inverted V-shape in sections. Lower edges of the upper glazing caps also have co-extruded gasket material 62  
25 of rubber or synthetic elastomeric material thereon.

A glazing panel is laid with its edge on the

glazing bar 44, with its cover 52 already in place, and the cap 50 is pressed into the glazing bar 44 to retain the glazing panel with gasket material above and below for a good seal.

5           A longitudinal channel 70 is formed on the underside of the central position 12 of the ridge cap. The channel 70 has parallel sides 71, inwardly extending lips 72 and return flanges 73. A longitudinal slot is defined between opposing flanges 73.

10           With the ridge cap connected to the ridge structure as illustrated in Figure 3 of the drawings, the lower ends of flanges 25,26 are in contact with the upper surfaces of the glazing bar caps 52. It will be appreciated that the bristles forming the brushes 32  
15           which are coincident with the glazing caps will be deflected to either side of the caps or backwards so as they lie on the surface thereof. The lower ends of the remaining bristles lie in contact with the roofing sheets and hence generally a water proof and draftproof  
20           seal is formed between the ridge cap and the glazing bars and roofing panels which form the roof.

          In order to improve sealing between roof panels and the ridge structure ends of the panels 48 abutting the ventilation box have a channel section member 90  
25           fitted thereto. The channel section member 90 has a lower side 92 which extends beyond the base 94 of the

channel and an upper side 96. At the free edge of the side 96 there is a coextruded gasket 98 of rubber or synthetic elastomeric material formed to bend inwards when a panel 48 is pushed into the channel member 90.

5 On the outside of the corner of the channel member 90 where the side 96 meets the base 94 is a second coextruded gasket 100 which extends upwardly and outwardly from the corner. The ventilation box 38 has a longitudinal slot or depression 102 along each side to

10 provide a ledge for the extension of lower channel member side 92 to sit on when the panel 48 is fitted into place on the ridge structure.

The connection arrangement for securely connecting the ridge cap to the ridge structure will now

15 be described. A bolt 110 has a rectangular shaped head 112 with end lips 114 on its underside. In order to connect the ridge cap to the ridge structure heads of the bolts 110 are orientated to slot into the channel 70 of the ridge cap and then rotated, so that the lips of

20 the heads engage the return flanges 73 of the channel 70 at desired positions along the channel. The bolts are then fitted through one of a series of spaced apart ridge cap spacers 116 which sit on the top of the ventilation box 38 and through the base of the

25 ventilation box, with its rectangular head uppermost.

Then when all the necessary bolts are so

positioned, they can be tightened by means of nuts 122.

For the sake of appearance, the ridge plates have depending formations 130 that engage in parallel channels 134 of a cover plate 136 to retain the cover  
5 plate when it pushed up into position.

## CLAIMS

1. A roof structure comprising roofing panels abutted against a ridge member, wherein ends of roofing panels are provided with means for sealing between the roofing panel and the ridge member.  
5
2. A roof structure as claimed in claim 1, wherein the ridge member is a ventilation box.
3. A roof structure as claimed in claim 1 or 2, wherein the sealing means is a channel section that fits  
10 onto the end of a roofing panel, which member has an external gasket means for providing a seal between the channel section member and the ridge member against which it is abutted when fitted.
4. A roof structure as claimed in claim 3, wherein  
15 the gasket means is coextruded with the channel section member.
5. A roof structure as claimed in claim 3 or 4, wherein the gasket means is along a corner of the channel section member where the base of the channel  
20 meets a side wall thereof.
6. A roof structure as claimed in claim 5, wherein the corner of the channel section member is an intended upper corner.
7. A roof structure as claimed in claim 5 or 6,  
25 wherein the gasket means extends upwardly and outwardly

from the channel section member.

8. A roof structure as claimed in any one of claims 3 to 7, wherein the channel section member has an internal gasket to provide a seal between the upper surface of the roofing panel and the channel section member.
9. A roof structure as claimed in claim 8, wherein the internal gasket is coextruded with the channel section member.
10. A roof structure as claimed in claim 8 or 9, wherein the internal gasket is formed along an edge of the channel section member to be deformable inwardly when a panel is pushed into the channel section.
11. A roof structure as claimed in any one of claims 3 to 10, wherein the gaskets are of rubber or synthetic elastomeric material.
12. A roof structure as claimed in any one of claims 3 to 11, wherein the channel section member has a projection or the like to locate on a ridge member.
13. A roof structure as claimed in claim 12, wherein the projection or the like is a continuation of a wall of the channel section member beyond the base of the channel section member.
14. A roof structure as claimed in claim 13, wherein the wall of the channel section member is an intended lower wall when fitted to a roofing panel.

15. A roof structure as claimed in claim 12, 13 or 14, wherein the ridge member has a ledge for location of the projection or the like.

16. A roof structure as claimed in claim 15, wherein  
5 the ledge is provided by a longitudinal recess formed in a wall of the ridge member.

17. A roof structure substantially as herein before described with reference to and as illustrated in the accompanying drawings.

Patents Act 1977

Examiner's report to the Comptroller under Section 17  
The Search report)

Application number  
GB 9404695.0

-12-

**Relevant Technical Fields**

- (i) UK Cl (Ed.M) E1D DF112, DDJ, DDV; E1R RRS, RRQ, RRP, RRV
- (ii) Int Cl (Ed.5) E04D E06B

Search Examiner  
J D CANTRELL

Date of completion of Search  
2 JUNE 1994

**Databases (see below)**

(i) UK Patent Office collections of GB, EP, WO and US patent specifications.

Documents considered relevant following a search in respect of Claims :-  
1-17

(ii)

**Categories of documents**

- X: Document indicating lack of novelty or of inventive step. P: Document published on or after the declared priority date but before the filing date of the present application.
- Y: Document indicating lack of inventive step if combined with one or more other documents of the same category. E: Patent document published on or after, but with priority date earlier than, the filing date of the present application.
- A: Document indicating technological background and/or state of the art. &: Member of the same patent family; corresponding document.

Category	Identity of document and relevant passages	Relevant to claim(s)
X	GB 2204627 A (SAGE)	1

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